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EXAMINER	
ZERVIGON, RUDY	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/775,664	SHUFFLEBOTHAM ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *72-79,81-91 and 93* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *72-79,81-91 and 93* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 72, 78, 79, 81, and 83 are rejected under 35 U.S.C. 102(a) as being anticipated by Collins; Kenneth S. et al. (US 5,556,501 A). Collins teaches:

i. An inductively coupled plasma CVD processing system (Figure 1; column 7; line 40 - column 8, line 15) comprising: a plasma processing chamber (11; Figure 1; column 7; line 41); a planar dielectric window (46-48; Figure 1; column 15; lines 17-30) forming a top wall (walls enclosing 16A; Figure 1) of the processing chamber (11; Figure 1; column 7; line 41); a substancially planar electrically-conductive coil (30; Figure 1; column 8; lines 4-14) which inductively couples RF energy into the plasma processing chamber (11; Figure 1; column 7; line 41) and energizes the process gas into a plasma state; a substrate (5; Figure 1) support (32c; Figure 1) adapted to support a substrate (5; Figure 1) within the processing chamber (11; Figure 1; column 7; line 41); and a plurality of injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) adapted to introduce process gas into the processing chamber (11; Figure 1; column 7; line 41), all of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) being spaced outwardly from the periphery of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 72

ii. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein the plurality of gas flows from the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) overlap each other in a plane parallel to an exposed surface of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 78

iii. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein each of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) includes an exit orifice (53; Figure 1; column 9; line 64 - column 10, line 63) , and each of the orifices (53; Figure 1; column 9; line 64 - column 10, line 63) is spaced the same distance outwardly from the periphery of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 79

iv. The system (Figure 1; column 7; line 40 - column 8, line 15) is claim 72, wherein all of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) have the same length such that exit orifices (53; Figure 1; column 9; line 64 - column 10, line 63) of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are spaced the same distance outwardly from the periphery of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 81

v. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein all of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) includes an exit

orifice (53; Figure 1; column 9; line 64 - column 10, line 63) spaced outwardly from the periphery of the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 83

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 73-77, and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins; Kenneth S. et al. (US 5,556,501 A) in view of Latz; Rudolf et al. (US 5,169,509 A). Collins is discussed above.

Collins does not teach:

i. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are provided on a first gas ring (51; Figure 1; column 9; line 64 - column 10, line 63), at least some of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) include an orifice orientated relative to the axis thereof to direct the process gas in an upward direction away from the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1); and at least some of the injector tubes are orientated in the plasma processing chamber (11; Figure 1; column 7; line 41) to direct the process gas along the axes thereof that intersect an exposed surface of the substrate (5; Figure 1) at an acute angle when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1) - claim 73

ii. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein: the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are provided on a

first gas ring (51; Figure 1; column 9; line 64 - column 10, line 63); all of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are orientated in the plasma processing chamber (11; Figure 1; column 7; line 41) to direct the process gas along axes thereof that intersect an exposed surface of the substrate (5; Figure 1) at an acute angle when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1) - claim 74

iii. An inductively coupled plasma CVD processing system (Figure 1; column 7; line 40 - column 8, line 15) comprising: a plasma processing chamber (11; Figure 1; column 7; line 41); a planar dielectric window (46-48; Figure 1; column 15; lines 17-30) forming a top wall (walls enclosing 16A; Figure 1) of the processing chamber (11; Figure 1; column 7; line 41); a substancially planar electrically-conductive coil (30; Figure 1; column 8; lines 4-14) which inductively couples RF energy into the plasma processing chamber (11; Figure 1; column 7; line 41) and energizes the process gas into a plasma state; a substrate (5; Figure 1) support (32c; Figure 1) adapted to support a substrate (5; Figure 1) within the processing chamber (11; Figure 1; column 7; line 41); and a plurality of injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) adapted to introduce process gas into the processing chamber (11; Figure 1; column 7; line 41), all of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) being spaced outwardly from the periphery of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1) and at least one of the injector tubes including an orifice orientated relative to the axis thereof to direct the process gas in an

upward direction away from an exposed surface of the substrate when the substrate is supported on the substrate support, as claimed by claim 75

iv. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are detachably ("inserted"; column 10; line 10) connected to a first gas ring (51; Figure 1; column 9; line 64 - column 10, line 63) made of aluminum which includes outlets (53; Figure 1; column 9; line 64 - column 10, line 63) adapted to supply process gas into the plasma processing chamber (11; Figure 1; column 7; line 41), as claimed by claim 76

v. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 76, including a second gas ring disposed above or below the first gas ring (51; Figure 1; column 9; line 64 - column 10, line 63) in the plasma processing chamber (11; Figure 1; column 7; line 41), as claimed by claim 77

vi. The system (Figure 1; column 7; line 40 - column 8, line 15) of claim 72, wherein some of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) have different lengths such that exit orifices (53; Figure 1; column 9; line 64 - column 10, line 63) of some of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are spaced a different distance outwardly from the periphery of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 82

Latz teaches a wafer plasma processing apparatus (sole figure) including injector tubes (nozzle portion of 24/24a; Sole Figure) are provided on a first gas ring (24/24(a); Sole Figure) and at least one of the injector tubes (nozzle portion of 24/24a; Sole Figure) including an orifice

orientated relative to the axis thereof to direct the process gas in an upward direction away from an exposed surface of the substrate (1,1',1'') when the substrate is supported on the substrate support (27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Collins's injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) with Latz's injector tubes (nozzle portion of 24/24a; Sole Figure) provided on a first gas ring (24/24(a); Sole Figure), further, to optimize the dimension ands/or position of Collins's injector tubes.

Motivation to replace Collins's injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) with Latz's injector tubes (nozzle portion of 24/24a; Sole Figure) provided on a first gas ring (24/24(a); Sole Figure), further, to optimize the dimension and/or position of Collins's injector tubes is for promoting "uniform and stable process" as taught by Latz (column 1; lines 60-65). Further, it is well established that changes in apparatus dimensions are within the level of ordinary skill in the art.(Gardner v. TEC Systems, Inc. , 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied , 469 U.S. 830, 225 USPQ 232 (1984); In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); See MPEP 2144.04).

It is well established that the rearrangement of parts is considered obvious to those of ordinary skill (In re Japikse , 181 F.2d 1019, 86 USPQ 70 (CCPA 1950); In re Kuhle , 526 F.2d 553, 188 USPQ 7 (CCPA 1975); Ex parte Chicago Rawhide Manufacturing Co. , 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).; MPEP 2144.04).

It is well established that the duplication of parts is obvious (In re Harza , 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04).

5. Claim 84 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins; Michael D. et al. (US 5,556,501 A) in view of Chen, Aihua (USPat. 5,691,876). Collins is discussed above. Collins does not teach the substrate (not shown; Figure 1; column 8, lines 40-55) support (100; Figure 1) including means for maintaining the substrate (not shown; Figure 1; column 8, lines 40-55) at a desired temperature – claim 84.

Chen teaches:

i. the substrate (not shown; Figure 1; column 8, lines 40-55) support (100; Figure 1) including means for maintaining the substrate (not shown; Figure 1; column 8, lines 40-55) at a desired temperature – claim 84

Applicant's means for maintaining the substrate at a desired temperature is supported by the specification:

" [0027] In order to prevent damage to metal lines or the pre-existing films and structures on the substrate and to ensure accurate and precise process control, a heated mechanical or preferably an electrostatic chuck (ESC) is employed to hold the substrate. The ESC is preferably bipolar or monopolar. Preferably, the electrode is maintained at a temperature ranging from about 50°C. to 350°C, in order to maintain the temperature of the wafer to about 325°C to 375°C.

"

Consequently, Chen teaches equivalent means (column 6, lines 35-54; 5-18)

i. The system (Figure 1) of claim 72, wherein the substrate (not shown; Figure 1; column 8, lines 40-55) support (100; Figure 1) includes means (see above) for maintaining the

substrate (not shown; Figure 1; column 8, lines 40-55) at a desired temperature when the substrate (not shown; Figure 1; column 8, lines 40-55) is supported on the substrate (not shown; Figure 1; column 8, lines 40-55) support (100; Figure 1), as claimed by claim 84

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Collins's support (32c; Figure 1) with Chen's temperature controlled support (100; Figure 1).

Motivation to replace Collins's support (32c; Figure 1) with Chen's temperature controlled support (100; Figure 1) is for conducting high temperature processing of substrates as taught by Chen (column 1; lines 1-18; column 2; lines 18-24).

6. Claims 85-91, 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins; Michael D. et al. (US 6,200,412 B1) in view of Chen, Aihua (USPat. 5,691,876) and Latz; Rudolf et al. (US 5,169,509 A). Collins and Chen are discussed above. Collins further teaches injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are detachably ("inserted"; column 10; line 10) connected to a first gas ring (51; Figure 1; column 9; line 64 - column 10, line 63) - claim 88. Collins further teaches:

i. The system (Figure 1; column 7; line 40 - column 8, line 15) of Claim 85, wherein a plurality of gas flows from the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) overlap each other in a plane parallel to an exposed surface of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 91

ii. The system (Figure 1; column 7; line 40 - column 8, line 15) of Claim 85, wherein each of the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) has the same length, as claimed by claim 93

Collins does not teach:

iii. An inductively coupled plasma CVD processing system (Figure 1; column 7; line 40 - column 8, line 15), comprising: a plasma processing chamber (11; Figure 1; column 7; line 41); a planar dielectric window (46-48; Figure 1; column 15; lines 17-30) forming a top wall (walls enclosing 16A; Figure 1) of the plasma processing chamber (11; Figure 1; column 7; line 41); a substancially planar electrically-conductive coil (30; Figure 1; column 8; lines 4-14) which inductively couples RF energy into the plasma processing chamber (11; Figure 1; column 7; line 41) and energizes the process gas into a plasma state; a substrate (5; Figure 1) support (32c; Figure 1) adapted to support a substrate (5; Figure 1) within the processing chamber (11; Figure 1; column 7; line 41) the substrate support including means for maintaining the substrate at a desired temperature; and a plurality of injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) each including an orifice (53; Figure 1; column 9; line 64 - column 10, line 63) oriented relative to the axis thereof to direct the process gas in an upward direction away from the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1); and/or (ii) a plurality of injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) each oriented in the plasma processing chamber (11; Figure 1; column 7; line 41) to direct the process gas along an axis thereof that intersects an exposed surface of the substrate (5; Figure 1) at an acute angle when the

substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1) - claim 85

iv. The system (Figure 1; column 7; line 40 - column 8, line 15) of Claim 85, wherein the means for maintaining the substrate (5; Figure 1) at a desired temperature includes an electrostatic chuck and is adapted to maintain the substrate (5; Figure 1) at a temperature ranging from about 325°C to 375°C when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 86

v. The system (Figure 1; column 7; line 40 - column 8, line 15) of Claim 85, wherein the substrate (5; Figure 1) support (32c; Figure 1) includes a heat transfer gas source which is adapted to supply a heat transfer gas to control the temperature of the substrate (5; Figure 1) to a temperature of about 100°C to 400°C, as claimed by claim 87

vi. A second gas ring disposed above or below the first gas ring (51; Figure 1; column 9; line 64 - column 10, line 63) – claim 88

vii. The system (Figure 1; column 7; line 40 - column 8, line 15) of Claim 85, wherein the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) are oriented in the plasma processing chamber (11; Figure 1; column 7; line 41) to direct the process gas along axes thereof that intersect the exposed surface of the substrate (5; Figure 1) at an acute angle when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 89

viii. The system (Figure 1; column 7; line 40 - column 8, line 15) of Claim 85, wherein the injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) include an orifice (53; Figure 1; column 9; line 64 - column 10, line 63) oriented relative to the axis thereof

to direct the process gas in an upward direction away from an exposed surface of the substrate (5; Figure 1) when the substrate (5; Figure 1) is supported on the substrate (5; Figure 1) support (32c; Figure 1), as claimed by claim 90

Chen teaches:

ii. the substrate (not shown; Figure 1; column 8, lines 40-55) support (100; Figure 1) including means for maintaining the substrate (not shown; Figure 1; column 8, lines 40-55) at a desired temperature – claim 85

Applicant's means for maintaining the substrate at a desired temperature is supported by the specification:

" [0027] In order to prevent damage to metal lines or the pre-existing films and structures on the substrate and to ensure accurate and precise process control, a heated mechanical or preferably an electrostatic chuck (ESC) is employed to hold the substrate. The ESC is preferably bipolar or monopolar. Preferably, the electrode is maintained at a temperature ranging from about 50°C. to 350°C, in order to maintain the temperature of the wafer to about 325°C to 375°C.

"

Consequently, Chen teaches equivalent means (column 6, lines 35-54; 5-18)

i. The system (Figure 1) of Claim 85, wherein the means for maintaining the substrate (not shown; Figure 1; column 8, lines 40-55) at a desired temperature includes an electrostatic chuck and is adapted to maintain the substrate (not shown; Figure 1; column 8, lines 40-55) at a temperature ranging from about 325°C to 375°C (claim 9) when the substrate (not shown; Figure 1; column 8, lines 40-55) is supported on the substrate (not shown; Figure 1; column 8, lines 40-55) support (100; Figure 1), as claimed by claim 86

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Collins's support (32c; Figure 1) with Chen's temperature controlled support (100; Figure 1), and to replace Collins's injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) with Latz's injector tubes (nozzle portion of 24/24a; Sole Figure) provided on a first gas ring (24/24(a); Sole Figure), further, to optimize the dimension ands/or position of Collins's injector tubes.

Motivation to replace Collins's support (32c; Figure 1) with Chen's temperature controlled support (100; Figure 1) is for conducting high temperature processing of substrates as taught by Chen (column 1; lines 1-18; column 2; lines 18-24), and motivation to replace Collins's injector tubes (54; Figure 1; column 9; line 64 - column 10, line 63) with Latz's injector tubes (nozzle portion of 24/24a; Sole Figure) provided on a first gas ring (24/24(a); Sole Figure), further, to optimize the dimension and/or position of Collins's injector tubes is for promoting "uniform and stable process" as taught by Latz (column 1; lines 60-65). Further, it is well established that changes in apparatus dimensions are within the level of ordinary skill in the art.(Gardner v. TEC Systems, Inc. , 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied , 469 U.S. 830, 225 USPQ 232 (1984); In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); See MPEP 2144.04).

It is well established that the rearrangement of parts is considered obvious to those of ordinary skill (In re Japikse , 181 F.2d 1019, 86 USPQ 70 (CCPA 1950); In re Kuhle , 526 F.2d 553, 188 USPQ 7 (CCPA 1975); Ex parte Chicago Rawhide Manufacturing Co. , 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).; MPEP 2144.04)

It is well established that the duplication of parts is obvious (In re Harza , 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04).

Response to Arguments

7. Applicant's arguments with respect to claims 72-79, 81-91, and 93 have been considered but are moot in view of the new grounds of rejection.

Conclusion

8. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (571) 273-8300. Any Inquiry

of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.